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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,387	12/21/2001	Timo J. Salo	RSW920010207US1	1045
46320	7590	12/02/2005	EXAMINER	
CHRISTOPHER & WEISBERG, PA 200 E. LAS OLAS BLVD SUITE 2040 FT LAUDERDALE, FL 33301			LY, ANH	
			ART UNIT	PAPER NUMBER
			2162	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/026,387	<b>Applicant(s)</b> SALO ET AL.	
	<b>Examiner</b> Anh Ly	<b>Art Unit</b> 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office Action is response to Applicants' AMENDMENT filed on 09/19/2005.
2. Claim 11 has been added.
3. Claims 1-11 are pending in this Application.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No.: 5,717,924 issued to Kawai in view of Pub. No.: US 2003/0055822 A1 of Yu.

With respect to claim 1, Kawai teaches a plurality of related objects (fig. 5, related objects are tables such BOOK table and AUTHOR table having a linking table or a third table, AUTHOR-BOOK table having a key pair such as SURROGATE KEY and ISBN; primary key of this table is (SURGOGATER KEY, ISBN), wherein SURROTE KEY is foreign key to SURROGATE KEY of AUTHOR table; ISBN is foreign key to ISBN of BOOK table); and

a plurality of corresponding links, each said link corresponding to one of said objects, each said link persisting state information for said corresponding object in an associated object table, and managing said junction table responsive to changing relationships with others of said related objects (fig. 12, relationships or links corresponding to one table to another table and managing of changing relationships with tables: col. 4, lines 8-12, col. 6, lines 6-20 and lines 28-36; also see col. 17, lines 52-67 and col. 18, lines 1-15).

Kawai teaches data migration management in many-to-many relationship between tables or related objects in the relational database system and reflecting the change relationships of the related objects (see fig. 5 and fig 12). Also Kawai teaches a third table using for changing relationships of objects in the related tables and object links that define relationships between related object in the object model (fig. 12B and col. 3, lines 46-67). Kawai does not clearly teach a junction table storing relationships between said related objects.

However, Yu teaches a relationship table storing the links of the table containing key pair entry: two primary keys of two tables having a many-to may relationship (fig. 1,

wherein the table C containing two foreign keys of table A and B and its primary (table C) is (A, B): abstract, sections 008 and 0014-0015).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Kawai with the teachings of Olson, wherein managing many-to-many relationships of the corresponding objects of the related tables in the system provided therein (Kawai's fig. 12; also fig. 5), would incorporate the use of a single table or a relationship table storing the links or relationships information of the related tables, in the same conventional manner as described by Yu (Yu's sections 0008 and 0014-0015). The motivation being to provide a way for enabling a user to managing many-to-many relationships of the related tables by using a single table or a third table storing the relationships information of the related tables.

With respect to claim 2, Kawai teaches a counter-operation management protocol performed in said corresponding links for removing conflicted state information in said corresponding links without persisting said conflicted state information in said junction table (fig. 11A. col. 16, lines 26-37, col. 25, lines 10-40 and col. 26, lines 30-40; also col. 30, lines 5-20; also user modifications to the objects: col. 2, lines 18-26).

With respect to claim 3, Kawai teaches wherein each of said corresponding links comprises a state management operations buffer, said buffer storing directives for adding selected key-pair entries to and removing selected key-pair entries from said junction table (fig. 5, pair key: SURROGATE KEY & ISBN in the AUTHOR-BOOK table).

With respect to claim 4, Kawai teaches wherein said counter-operation management protocol comprises an interface through which operations in said buffer and corresponding counter-operations in associated buffers of related links can be identified and removed, each said counter-operation specifying a junction table management operation for a particular key-pair entry in said associated buffer which is opposite to an operation in said buffer which specifies a junction table management operation also for said particular key-pair entry (fig. 5, col. 6, lines 6-36 and lines 52-67).

7. Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No.: 5,717,924 issued to Kawai in view of Pub. No.: US 2003/0055822 A1 of Yu and further in view of US Patent No.: 5,819,086 issued to Kroenke.

With respect to claim 5, Kawai teaches detecting a relationship change with a related object (detecting modifications or the changing of related object for each table in the database: col. 2, lines 18-26).

Kawai teaches data migration management in many-to-many relationship between tables or related objects in the relational database system and reflecting the change relationships of the related objects (see fig. 5 and fig 12). Also Kawai teaches a third table using for changing relationships of objects in the related tables and object links that define relationships between related object in the object model (fig. 12B and col. 3, lines 46-67). Kawai does not clearly teach a junction table.

However, Yu teaches a relationship table storing the links of the table containing key pair entry: two primary keys of two tables having a many-to many relationship (fig. 1, wherein the table C containing two foreign keys of table A and B and its primary (table C) is (A, B): abstract, sections 008 and 0014-0015).

Therefore, based on Kawai in view of Yu, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined the teachings of Kawai and Yu, because using the steps of "changing said relationship in a junction table", would have given those skilled in the art to have ability to include a table containing a key pair entry of a two table having many-to-many relationship for detecting a relationship change with related object. This gives users the advantage of processing of the related object storing in a relationship table more efficiently. Kawai and Yu do not teach storing a directive in a buffer, said directive specifying a management operation; searching for an opposite directive in a buffer associated with said related object and object and performing said stored directive only if an opposite directive has not been stored in a buffer associated with said related object.

However, Kroenke teaches creating object link attribute for key pair entry and defining relationships between two or more object and searching or retrieving the object for manipulation of object links (fig. 12, abstract, col. 4, lines 40-67 and col. 5, lines 1-38; also fig. 9 and col. 16, lines 8-67). T

Therefore, based on Kawai in view of Yu and further in view of Kroenke, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Kroenke to the system of Kawai to have stored

directive in a buffer and search the directive in a buffer associated with a related object. Because using the steps of “storing a directive in a buffer ... search for an opposite directive in a buffer... and performing said stored directive ... said related object,” would have given those skilled in the art the tools to managing the related object in a many-to-many relationship. The motivation being to provide a way for enabling a user to managing many-to-many relationships of the related tables by using a single table or a third table storing the relationships information of the related tables.

With respect to claim 6, Kawai teaches a method of managing a many-to-many relationship as discussed in claim 5.

Kawai teaches data migration management in many-to-many relationship between tables or related objects in the relational database system and reflecting the change relationships of the related objects (see fig. 5 and fig 12). Also Kawai teaches a third table using for changing relationships of objects in the related tables and object links that define relationships between related object in the object model (fig. 12B and col. 3, lines 46-67). Kawai does not clearly teach a junction table storing relationships between said related objects.

However, Yu teaches a relationship table storing the links of the table containing key pair entry: two primary keys of two tables having a many-to may relationship (fig. 1, wherein the table C containing two foreign keys of table A and B and its primary (table C) is (A, B): abstract, sections 008 and 0014-0015).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Kawai with the teachings



Art Unit: 2162

of Olson, wherein managing many-to-many relationships of the corresponding objects of the related tables in the system provided therein (Kawai's fig. 12; also fig. 5), would incorporate the use of a single table or a relationship table storing the links or relationships information of the related tables, in the same conventional manner as described by Yu (Yu's sections 0008 and 0014-0015). The motivation being to provide a way for enabling a user to managing many-to-many relationships of the related tables by using a single table or a third table storing the relationships information of the related tables.

With respect to claim 7, Kawai in view of Yu teaches a method of managing a many-to-many relationship as discussed in claim 5.

Kawai and Yu, teach detecting a relationship change with a related object and changing in a junction table. This gives users the advantage of processing of the related object storing in a relationship table more efficiently. Kawai and Yu do not teach storing a directive in a buffer, said directive specifying a management operation; searching for an opposite directive in a buffer associated with said related object and object and performing said stored directive only if an opposite directive has not been stored in a buffer associated with said related object.

However, Kroenke teaches creating object link attribute for key pair entry and defining relationships between two or more object and searching or retrieving the object for manipulation of object links (fig. 12, abstract, col. 4, lines 40-67 and col. 5, lines 1-38; also fig. 9 and col. 16, lines 8-67). T

Therefore, based on Kawai in view of Yu and further in view of Kroenke, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Kroenke to the system of Kawai to have stored directive in a buffer and search the directive in a buffer associated with a related object. Because using the steps of "storing a directive in a buffer ... search for an opposite directive in a buffer... and performing said stored directive ... said related object," would have given those skilled in the art the tools to managing the related object in a many-to-many relationship. The motivation being to provide a way for enabling a user to managing many-to-many relationships of the related tables by using a single table or a third table storing the relationships information of the related tables.

Claim 8 is essentially the same as claim 5 except that it is directed to a machine-readable storage rather than a method, and is rejected for the same reason as applied to the claim 5 hereinabove.

Claim 9 is essentially the same as claim 6 except that it is directed to a machine-readable storage rather than a method, and is rejected for the same reason as applied to the claim 6 hereinabove.

Claim 10 is essentially the same as claim 7 except that it is directed to a machine-readable storage rather than a method, and is rejected for the same reason as applied to the claim 7 hereinabove.

Claim 11 is essentially the same as claim 7 except that it is directed to a machine-readable storage rather than a method, and is rejected for the same reason as applied to the claim 7 hereinabove.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2162


### Contact Information


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Ly whose telephone number is (571) 272-4039 or via E-Mail: ANH.LY@USPTO.GOV or fax to (571) 273-4039. The examiner can normally be reached on TUESDAY – THURSDAY from 8:30 AM – 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene, can be reached on (571) 272-4107 or **Primary Examiner Jean Corrielus (571) 272-4032.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, or faxed to: **Central Fax Center (571) 273-8300**

ANH LY   
NOV. 25<sup>th</sup>, 2005

  
JEAN M. CORRIELUS  
PRIMARY EXAMINER